

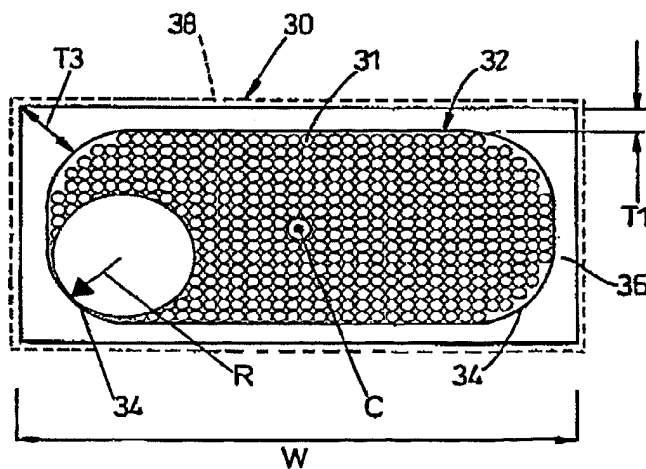
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## (57) Abstract

A composite conductor (30) comprises strands (31) of conductor material forming a conductor bundle (32) of generally rectangular shape; the strands being insulated from each other within the bundle. An insulating sleeve (36) of homogeneous polymeric material surrounds the conductor bundle (32); the insulating sleeve also having a rectangular shape. The polymeric material of the sleeve is filled with at least one insulating filler material which conducts heat more efficiently than the polymer alone, and a coating of conductive material (38) forms a corona shield on the inner and outer surfaces of the insulating sleeve. By virtue of its construction and the materials it uses, the composite conductor (30) provides a high efficiency winding (46) for the stator (40) of an electrical machine. The invention also includes a stator having a winding comprising the composite conductor and manufacturing methods for the composite conductor and the stator.